

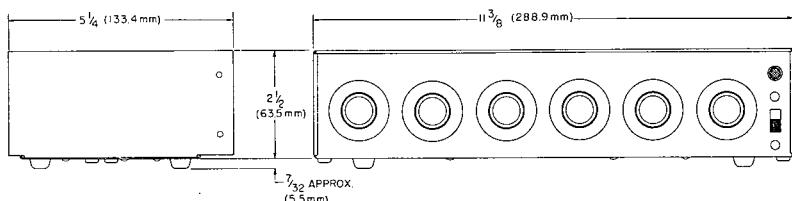
## OPTIONAL ACCESSORIES

Battery Power Supply.....	Model A68B
Output Cable Kit.....	Model A68C
Locking Panel.....	Model A68L
Phono Preampl.....	Model A68P
Rack Panel Kit.....	Model A68R
Stacking Kit.....	Model A68S
Interconnecting Cable.....	Model A68SC
Attache Case.....	Model AC68

## SPECIFICATIONS

Gain: At 1,000 Hz. (cps).

Input		Outputs		
		Low Imp. Mic.	High Imp. Mic.	High Imp. Aux.
Low Imp. Mic.	.5 mv produces	+9 db	+33 db	+60 db
		1.4 mv	22 mv	500 mv
High Imp. Mic.	5 mv produces	-13 db	+11 db	+38 db
		1.1 mv	18 mv	400 mv
AUX.	50 mv produces	-35 db	-11 db	+16 db
		0.9 mv	14 mv	320 mv



OVER ALL DIMENSIONS — FIGURE B

**Frequency Response:** The frequency response is flat  $\pm 2$  db from 30 Hz. (cps) to 20,000 Hz. (cps). *3 70 7*

**Hum-Noise:** 70 db below rated output.

**Equivalent Input Noise:** 150 ohm source, 123 db below 1 volt.

**Input Impedance:** Microphone inputs suitable for high or low impedance dynamic and ribbon microphones. Auxiliary—50,000 ohms.

### Recommended Load Impedance:

Low Impedance Microphone .....	25 to 600 ohms
High Impedance Microphone .....	20,000 ohms or greater
Auxiliary High Impedance .....	50,000 ohms or greater

**Distortion:** Less than 1% total Harmonic Distortion when low impedance microphone output is at 20 mv level, high impedance microphone output is at 200 mv level, and Aux. high impedance output is at 2.0 volt level.

### Output Clipping Level:

Output	Min. Clipping Level
Mic. Low Impd.	60 mv
Mic. High Impd.	.85 volts
Aux. High Impd.	4.0 volts

### Operating Voltage:

Model M68: 105-130 volts 50/60 cycle

Models M68-2 and M68-2E: 105-130 volts 50/60 cycle or 210-240 volts 50/60 cycle.

**Case:** Painted Metal.

**Dimensions:** See Figure B.

**Net Weight:** 4 pounds.

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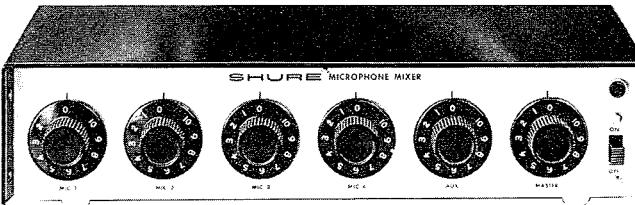
222 HARTREY AVE • EVANSTON, ILL. (60204) U.S.A.

**SHURE**

**MICROPHONES AND ELECTRONIC COMPONENTS**

AREA CODE 312/328-9000 • CABLE SHUREMICRO

## MODELS M68, M68-2, AND M68-2E MICROPHONE MIXERS *12-19-67*



**General:** The Shure Models M68, M68-2, and M68-2E are five channel, completely transistorized, portable microphone mixers for use with public address systems and tape recorders.

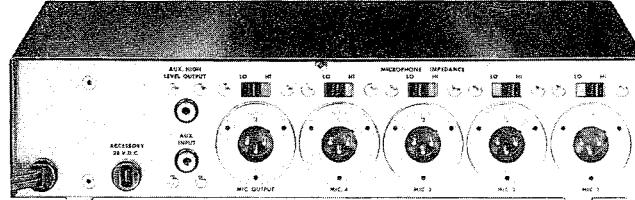
### The Mixers Feature:

- Four microphone inputs with individual slide switches mounted on rear panel for selection of low impedance (balanced or unbalanced) or high impedance (unbalanced).
- One high level auxiliary input suitable for tape, tuner, and accessories.
- Individual volume control to balance each of the five inputs.
- A master volume control to simultaneously control level of all inputs.
- A high (unbalanced) or low impedance (balanced or unbalanced) microphone level output. Impedance selected with slide switch to match the microphone input of associated amplifier.
- A high impedance auxiliary output.
- A DC power supply jack. This jack supplies 28 volts DC for use with accessories such as the Model A68P Phono Preamplifier or it may be used as power input in connection with the Model A68B Battery Power Supply (Accessory).
- A facility for connecting two or more mixers together to obtain additional microphone inputs. For example, two mixers connected together will give a total of eight microphone inputs and one auxiliary input.
- U.S. Underwriters Laboratory approval for use in commercial applications. (Applies to Model M68 and M68-2).

### INSTALLATION:

#### CONNECTION BETWEEN COMPONENTS

For balanced-line connection use two conductor, shielded, low capacity cable for connections. For unbalanced (high impedance), use single conductor, shielded, low capacity cable for connections.



REAR VIEW OF MODEL M68

*Revised by 27A54*

## GROUNDING

If there should be objectional hum, ground the metal chassis of the mixer to a good ground such as a metal frame of a wall outlet or a water or steam pipe.

## INPUT CONNECTIONS

**Microphones:** A maximum of four low or high impedance dynamic or ribbon microphones may be connected to receptacles marked MIC. 1, MIC. 2, MIC. 3, MIC. 4. The inputs are designed for low impedance microphones with 25 to 250 ohms impedance or high impedance microphones. Both low impedance and high impedance microphones may be used simultaneously with the M68. The unit is not recommended for use with crystal or ceramic microphones. The impedance is selected by a slide switch above the input receptacle. The input receptacle is a male Cannon XLR-3-14 type (uses XLR-3-11C mate, Shure Part 95A176). See Figure "A" for low and high impedance connections to receptacle.

**Auxiliary:** The jack on the rear of the panel marked AUX. INPUT will accept output from a high impedance, high level source such as a tape recorder, AM-FM tuner, or output from the Model A68P Phono Cartridge Preamplifier (Accessory).

## OUTPUT CONNECTIONS

**Microphone:** The receptacle marked MIC. OUTPUT is a dual impedance output selected by the switch above the receptacle. This output is the "Mixed" output of all the input sources and is designed to work into a 25 to 600-ohm line or input, or into a high impedance amplifier or tape recorder microphone input. The receptacle is a male three-pin Cannon XLR-3-14 type connector. See Figure "A" for output receptacle connections.

**Auxiliary:** The phono jack marked AUX. HIGH LEVEL OUTPUT is a high impedance high level output designed primarily to feed a power amplifier requiring .5 to 2 volts or the auxiliary or tuner input to an amplifier or tape recorder.

**Accessory 28-volt DC:** This rear panel jack provides 28 volts DC for accessories such as the Model A68P Phono Cartridge Preamplifier. The jack is also used as a power input when using the Model A68B Battery Power Supply (Accessory).

## OPERATION

**Power:** Connect the Microphone Mixer power line cord to the proper A.C. power outlet. See Operating Voltage under Specifications. (All Mixers except the M68-2E come with a standard two-conductor AC plug attached).

The Model M68-2E is supplied with a three-conductor power line cord, but no plug. The power line cord *plug* should be installed by a qualified person. The *red* and *black* leads of the power line cord should be connected to the "hot" or line voltage terminals. The *green* lead is the grounding conductor and should be connected to the ground or earth terminal of the plug.

If a different power line cord *plug* is required on the Model M68-2 Mixer, this plug should be installed by qualified service personnel.

In the Models M68-2 and M68-2E, either operating voltage is selected by a switch on the back panel. A switch lock plate is provided to prevent accidental switching to the 105-130-volt position. These microphone mixers are shipped with operating voltage selector switch locked in the 210-240-volt position. The lock plate can be removed from the locking position by loosening (do not remove) the screw holding the lock plate, rotating the lock plate 90°, and re-tightening the screw. The power ON-OFF switch is on the front panel.

**CAUTION:** Do Not Plug Power Line Cord of Models M68-2 or M68-2E into 210-240 volts when switched to 105-130 volts.

**Volume Controls:** The Master Gain Control and the individual gain controls for each of the five channels are identified on the front panel.

The individual gain controls should generally be set near maximum (fully clockwise) and the master gain control adjusted to required output. Individual channel gain controls not being used should be kept at minimum gain (fully counter-clockwise).

**Identifying Controls:** Pressure sensitive adhesive labels are supplied with the Mixers as a means of identifying the control and recording the control position when optimum results have been obtained. The labels are easily removed when their use is no longer required.

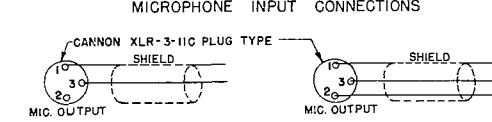
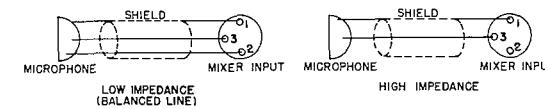
## CONNECTING TWO UNITS TOGETHER

Two M68 Mixers may be combined to give a total of eight microphone channels plus an auxiliary input.

- A. Connect the AUX. HIGH LEVEL OUTPUT of UNIT 1 to the AUX. INPUT OF UNIT 2.
- B. Connect microphones to mixers and set each microphone input control to #0 position.
- C. Take the output signal for recorder or P.A. amplifier from the appropriate output jack on UNIT 2.
- D. Set Master Control UNIT 1 to position #10.
- E. Set AUX. Control on UNIT 2 to position #4.
- F. The Master Control on UNIT 2 is now the Master for all inputs.
- G. Advance Master Control (UNIT 2) to about #5 position and adjust individual microphone controls for proper level. If overall gain is too low or too high the Master Control (UNIT 2) may be adjusted.
- H. If an input to the auxiliary channel is needed, such as for a tape recorder or tuner, use AUX. input on UNIT 1. Use AUX. Control on UNIT 1 for level adjustment of the AUX. source. The master gain control for the entire system is the Master Control on UNIT 2.

The Model A68S Stacking Kit includes stacking brackets for attaching the two mixers firmly together plus the required inter-connecting cable. The cable only, is available separately under the Model A68SC.

**Guarantee:** The Shure Model M68 Mixer is guaranteed to be free from electrical and mechanical defects for a period of one year from date of shipment from the factory, provided all instructions are complied with fully. In case of damage, it is essential that you carefully repack the unit and return it to the factory or, if outside of the United States, to your dealer or authorized Shure Service Center for repair. Our guarantee is voided if the basic assembly has been opened or subjected to unreasonably rough handling.



MICROPHONE CONNECTIONS — FIGURE A